To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

Send any inquiries to http://www.renesas.com/inquiry.

Date: Apr.17.2006

RENESAS TECHNICAL UPDATE

Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Renesas Technology Corp.

Product Category	MPU&MCU		Document No.	TN-SH7-A574A/E	Rev.	1.00
Title	SH7618, SH7618A, SH7619 Flow Control Defect		Information Category	Technical Notification		
Applicable Product	HD6417618RBG100V, HD6417618RBGN100V, HD6417618RBGW100V, HD6417618RBG100, HD6417618RBGN100, HD6417618RBGW100, HD6417618ABG100V, HD6417618ABGN100V, HD6417618ABG W100V, HD6417618ABG100, HD6417618ABGN100, HD6417618ABGW100, R4S76190B125BGV, R4S76190N125BGV, R4S76190W125BGV, R4S76190B125BG, R4S76190N125BG, R4S76190W125BG	Lot No. All lots	Reference Document	SH-2 SH7618 Group Hardware Manual (REJ09B0131-0400 Rev. 4.00) SH-2 SH7619 Group Hardware Manual (REJ09B0237-0300 Rev. 3.00)		

We would like to inform you of the usage note for SH7618 Group and SH7619 Group as follows.

-Note-

1. Flow Control Defect

The flow control defects are the followings.

(1) Once a PAUSE frame is received, each time when the local station receives a normal unicast frame (non-PAUSE frame without a CRC error), the TIME parameter specified by the PAUSE frame that has been previously received is incorrectly applied. As a result, unnecessary waiting time is generated to slow down the transmission throughput. The TIME parameter value is maintained until another PAUSE frame is received.

(2) In a normal operation, non-PAUSE frames are waited for transmission, and a PAUSE frame is enabled, whereas, in this defect, PAUSE frames are also waited for transmission incorrectly.

2. Conditions of generating defect

This defect will be generated under following conditions.

(1) Flow control defect 1: when a PAUSE frame is received while the receiving flow control is enabled in full-duplex mode (the RXF bit in ECMR=1)

(2) Flow control defect 2: when a PAUSE period is generated while the transmitting/receiving flow control is enabled in full-duplex mode (the TXF/RXF bit in ECMR=1).

3. Defect prevention

This defect can be prevented under following conditions.

(1) This defect can be prevented if the destination station supports the function to transmit the 0 time PAUSE frame as the same as this LSI does. Enable the use of 0 time PAUSE frame in this LSI (the ZPF bit in ECMR=1) before the 0 time PAUSE frame is received from the destination station. This clears the TIME parameter incorrectly maintained in the EtherC and prevents the unnecessary waiting time for transmission to be generated.

(2) This defect cannot be prevented. However, the transmission of non-PAUSE frames in a PAUSE period is prohibited, though the transmission of PAUSE frames is enabled in IEEE802.3. When a PAUSE period is generated by the request from the destination station (that is, a PAUSE frame is received from the destination station), the load of the destination station is high and that of the local station is not so high. Therefore, the transmission of PAUSE frames during this period is less likely to happen, and the ratio that this defect actually affects the operation in this LSI is rather low.

-End of Report-